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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/677,288	10/02/2000	Andrew A. Frank	UC98-194-2US	4305

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EXAMINER	
GONZALEZ, JULIO C	

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/677,288	FRANK, ANDREW A.	
	Examiner	Art Unit	
	Julio C. Gonzalez	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 September 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 October 2000* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the motor/generator controller disclosed in claim 19 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-24 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims disclose that "at any given vehicle speed" the motor controller and the continuously variable transmission can vary the engine speed and power. Such statement was not found in the specifications, specially "at any given vehicle speed". Also, about the statement that it is disclosed in the claims in which affects the acceleration and deceleration of the vehicle without changing the vehicle speed was not found in the specifications. No specific support was found for the statement disclosed in the claims.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims disclosed that the motor controller and the transmission vary the engine speed, but the vehicle speed is not change. How can the speed of the engine be varied and not affect the speed of the vehicle? If the engine were accelerated, wouldn't the speed of the vehicle also be accelerated?

In order to advance prosecution in the merits, the Prior Art will be applied as best understood by the examiner.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-11 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ibaraki et al (Patent No 6,098,733) in view of Ibaraki et al (Patent No 5,789,882) and Morimoto (Patent No 4,947,953).

Ibaraki et al (Patent No 6,098,733) discloses an apparatus for controlling the power at the output of an internal combustion engine, comprising an electric motor 14 coupled to the engine and a motor controller 28. Also the motor 14 comprises a motor/generator 34 and the motor controller varies positive and negative output torque (column 24, lines 1-5) and the motor 14 is coupled to a transmission 16 and the transmission is controllable comprising means for controlling the rate of change of ratio (column 24, lines 53-55). Moreover the transmission is automatic and variable (column 25, line 20) and the motor 14 is between engine 12 and transmission 16. Also, the control apparatus 28 has an electric motor 14 driving a transmission 16 and a battery system 36 powering the electric motor 14 comprising

an electric motor controller 28 connected to electric motor 14. Moreover, Ibaraki et al discloses an engine controller 42-48 connected to combustion engine. However, Ibaraki et al (Patent No 6,098,733) does not disclose directly varying the engine output.

On the other hand, Ibaraki et al (Patent No 5,789,882) discloses for the purpose of optimizing the efficiency of the driving system and providing a surplus power that the torque can be varied depending on the need of the vehicle (see claim 5 & column 4, lines 26-30) and that the engine and electric motor may be able to be used simultaneously (column 26, lines 30-33).
However, neither Ibaraki et al nor Ibaraki et al (Patent No 5,789,882) disclose explicitly using a continuously variable transmission to vary the engine speed.

On the other hand, Morimoto discloses for the purpose of sufficiently and quickly decelerating a vehicle without causing shock that a continuous variable transmission may be used so as to decreased the power of the engine and varying the speed of the engine (abstract & column 6,lines 54-58). Also, the transmission may be used so as not to change the vehicle speed (column 6, lines 40-43, 63-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an apparatus for controlling a combustion engine as disclosed by Ibaraki et al and to modify the invention by having the engine and

electric motor running simultaneously for the purpose of optimizing the efficiency of the driving system and providing a surplus power as disclosed by Ibaraki et al (Patent No 5,789,882) and to use a variable transmission affect the engine speed for the purpose of sufficiently and quickly decelerating a vehicle without causing shock as disclosed by Morimoto.

8. Claims 12-18 are rejected under 35 U.S.C. 103(a) as being unpateable over Yamaguchi in view of Ibaraki et al (Patent No 5,789,882) and Morimoto (Patent No 4,947,953).

Yamaguchi discloses a generator 3 coupled to the output of engine 2 and a generator controller 12. Also Yamaguchi discloses that the generator comprises a generator/motor (see figure 1) and that the controller varies positive and negative output torque in accordance to predetermined characteristics (column 17, lines 23-25).

However, Yamaguchi does not disclose directly varying the engine output.

On the other hand, Ibaraki et al (Patent No 5,789,882) discloses for the purpose of optimizing the efficiency of the driving system and providing a surplus power that the torque can be varied depending on the need of the vehicle (see claim

5 & column 4, lines 26-30) and that the engine and electric motor may be able to be used simultaneously (column 26, lines 30-33).

However, neither Yamaguchi nor Ibaraki et al (Patent No 5,789,882) disclose explicitly using a continuously variable transmission to vary the engine speed.

On the other hand, Morimoto discloses for the purpose of sufficiently and quickly decelerating a vehicle without causing shock that a continuous variable transmission may be used so as to decreased the power of the engine and varying the speed of the engine (abstract & column 6,lines 54-58). Also, the transmission may be used so as not to change the vehicle speed (column 6, lines 40-43, 63-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design an apparatus for controlling a combustion engine as disclosed by Yamaguchi and to modify the invention by having the engine and electric motor running simultaneously for the purpose of optimizing the efficiency of the driving system and providing a surplus power as disclosed by Ibaraki et al (Patent No 5,789,882) and to use a variable transmission for varying the engine speed for the purpose of sufficiently and quickly decelerating a vehicle without causing shock as disclosed by Morimoto.

9. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al in view of Kawakatsu et al and Ibaraki et al (Patent No 5,789,882) and Morimoto (Patent No 4,947,953).

Yamaguchi discloses a shaft 25 coupled to the transmission and a generator/motor 3 coupled to engine 2, and a generator/motor controller 12 connected to generator 3 and a battery 4 connected to generator/motor controller 12. Also, Yamaguchi discloses a motor controller 12 connected to the motor 3. However Yamaguchi does not disclose a motor/generator coupled to a shaft and wheels involve in the transmission system.

On the other hand Kawakatsu et al discloses a drive shaft 9 coupled to motor/generator 3 (column 4, lines 63-67) and a battery 49 connected to the motor/generator 3 for the purpose to supply voltage to a the car's computer. Moreover, the motor/generator and motor/generator controller are part of the transmission system (see figure 3). Also, the transmission has an output driving a first wheel 17 at a first end of vehicle wheel and an electric motor 3 driving a second wheel 21 at a second end of vehicle. Also, the control means is used for varying the torque output (column 22, lines 18-22).

However, neither Yamaguchi nor Kawakatsu disclose that the motor and combustion engine may function simultaneously.

On the other hand, Ibaraki et al (Patent No 5,789,882) discloses for the purpose of optimizing the efficiency of the driving system and providing a surplus power that the torque can be varied depending on the need of the vehicle (see claim 5 & column 4, lines 26-30) and that the engine and electric motor may be able to be used simultaneously (column 26, lines 30-33).

However, neither Yamaguchi nor Ibaraki et al (Patent No 5,789,882) nor Kawakatsu disclose explicitly using a continuously variable transmission to vary the engine speed.

On the other hand, Morimoto discloses for the purpose of sufficiently and quickly decelerating a vehicle without causing shock that a continuous variable transmission may be used so as to decreased the power of the engine and varying the speed of the engine (abstract & column 6,lines 54-58). Also, the transmission may be used so as not to change the vehicle speed (column 6, lines 40-43, 63-65).

It would have been obvious to one having ordinary skill in the art to couple a shaft to the transmission system and couple a generator/motor to the engine as disclosed by Yamaguchi and to use a first wheel and a second wheel, a motor/generator and a motor/generator controller and a battery for the purpose to supply voltage to the car's computer as disclosed by Kawakatsu et al and to modify the invention by having the engine and electric motor running simultaneously for

the purpose of optimizing the efficiency of the driving system and providing a surplus power as disclosed by Ibaraki et al (Patent No 5,789,882) and to use a variable transmission for varying the engine speed for the purpose of sufficiently and quickly decelerating a vehicle without causing shock as disclosed by Morimoto.

Response to Arguments

10. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant's arguments filed 09/19/02 have been fully considered but they are not persuasive.

Ibaraki et al (Patent No 6,098,733), Ibaraki et al (Patent No 5,789,882) and Morimoto (Patent No 4,947,953) disclose a system use for hybrid vehicles. Ibaraki et al shows using a continuous variable transmission, which affects the engine speed, respectfully, transmissions affect the speed of the engine, depending on what gear is desired. Also, in a cruise control system, the vehicle is accelerated or decelerated to maintain a desired speed, which eventually the transmission is affecting the engine speed. Moreover, Ibaraki discloses using a motor controller.

It is well known in the art that a motor controller will affect the electric motor, thus affecting the engine rpm or torque, depending on the need of the vehicle.

12. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the ratio of the transmission being continuously varied, shifting the CVT ratio and the CVT changing the ratio to maintain a vehicle speed) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened

statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jcg

November 26, 2002